

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1, 2, and 4-13 are presently active in this case, Claims 1, 8, and 10-13 having been amended by way of the present Amendment. Care has been taken such that no new matter has been entered. (See, e.g., Figures 5, 6, 11A, and 11B of the present application.)

In the outstanding Official Action, Claims 8, 12, and 13 were rejected under 35 U.S.C. 102(e) as being anticipated by Kanamori et al. (U.S. Patent No. 5,153,734). Claims 1, 4, 6, 9, and 10 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa (U.S. Patent App. Pub. No. 2003/0025824) in view of JP 05-275201. Claims 1, 10, and 11 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kanamori et al. in view of JP 05-275201. Claim 2 was rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa in view of JP 05-275201 and further in view of Tamura et al. (U.S. Patent No. 5,130,804). Claims 5 and 7 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa in view of JP 05-275201 and further in view of Takachi (U.S. Patent App. Pub. No. 2003/0137595). For the reasons discussed below, the Applicants request the withdrawal of the art rejections.

Briefly recapitulating, the present invention provides an apparatus and method that obtains the following four advantages. The invention provides a configuration in which the lens and the photoelectric conversion element can be arranged to oppose each other with a predetermined optical distance. The invention provides an image pickup apparatus in which the components thereof can be electrically connected to each other easily and in a short time.

In this structure, it is possible to manufacture small camera modules with high yields. The invention provides a photoelectric conversion module in which the first connector can be initially mounted, and other components can be freely mounted on the reverse surface of the module substrate, thereby downsizing can be effectively accomplished. The invention provides a photoelectric conversion module which can be mounted after a reflow process of the module substrate is completed; thus, it is possible to eliminate a process required to apply excessive heat to a photoelectric conversion element and an optical lens made of glass, both of which have weak heat resistance. Therefore, the invention can improve yield of manufacturing camera modules.

Turning to the rejections of the claims, in the Office Action, the Kanamori et al. reference is indicated as anticipating independent Claim 8. The Applicants note that a claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference. As will be demonstrated below, the Kanamori et al. reference clearly does not meet each and every limitation of pending independent Claim 8.

Claim 8 recites a method for manufacturing an image pickup apparatus comprising, among other features, determining relative positions of a first connector, a second connector and a photoelectric conversion module by positioning members that have at least two different shapes. The Applicants submit that the Kanamori et al. reference does not disclose the above features.

The Kanamori et al. reference describes a solid state image pickup mounting structure that is used to mount a low pass filter onto the upper surface of a solid state image pickup

element and fix them to a reference plate. The Official Action cites CCD reference plate (16) for the teaching of the first connector of Claim 8, the low pass filter holder member (29) and lens barrel as the second connector, and CCD (10) as the photoelectric conversion module. The Official Action further cites set screw (20) for the teaching of the positioning member.

The Applicants note, however, that the Kanamori et al. reference does not disclose or suggest positioning members that have at least two different shapes, and therefore the Kanamori et al. reference does not anticipate determining relative positions of a first connector, a second connector and a photoelectric conversion module by positioning members that have at least two different shapes, as recited in Claim 8. The Kanamori et al. reference does not disclose set screws of different shapes. Thus, the Kanamori et al. reference does not anticipate Claim 8.

By way of illustration and not limitations, Figure 11B of the present application depicts an exemplary embodiment in which positioning pins (242, 243) have different shapes (at least two different shapes). This structure advantageously prevents the lens holder from being inserted in opposite direction, so that an operator does not fail to insert it in a correct direction.

Accordingly, the Applicants respectfully request the withdrawal of the anticipation rejection of Claim 8.

Regarding the obviousness rejections of Claim 1, the basic requirements for establishing a *prima facie* case of obviousness as set forth in MPEP 2143 include (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to

combine reference teachings, (2) there must be a reasonable expectation of success, and (3) the reference (or references when combined) must teach or suggest all of the claim limitations. The Applicants submit that a *prima facie* case of obviousness cannot be established in the present case because the cited references, either when taken singularly or in combination, do not teach or suggest all of the limitations of Claim 1.

Claim 1 of the present application recites an image pickup apparatus comprising, among other features, positioning members that have at least two different shapes determining relative positions of a first connector, a second connector and a photoelectric conversion module. The Applicants submit that the cited references, either when taken singularly or in combination, fail to disclose or suggest all of the above limitations.

The Ishikawa reference describes an image pickup device provided with an optical system for taking the image of an object, a photoelectric converting element for photoelectric conversion of the object image taken by the optical system, an electric signal outputting board for outputting an electrical signal from the photoelectric converting element, and a position defining member for defining the position of the optical system relative to the photoelectric converting element. The electric signal outputting board is positioned between the photoelectric converting element and the position defining member.

The Official Action cites position defining member (3) for the teaching of the first connector of Claim 1, image pickup optical system (2) for the second connector, and a solid-state image pickup package (1) for the photoelectric conversion module. The Official Action further cites positioning projections (11) for the teaching of the positioning member of Claim 1.

The Applicants note, however, that the Ishikawa reference does not disclose or even suggest positioning members that have at least two different shapes, as recited in Claim 1. All of the positioning projections (11) in the Ishikawa reference are the same shape.

Additionally, as discussed above with respect to the rejection of Claim 8, the Kanamori et al. reference does not disclose or suggest positioning members that have at least two different shapes, as recited in Claim 1.

Furthermore, the Applicants submit that the JP 05-275201 reference does not supplement the above deficiencies in the teaching of either the Ishikawa reference or the Kanamori et al. reference. The JP 05-275201 reference is cited for the teaching of a spring electrode as claimed. The JP 05-275201 reference is not cited for and does not disclose positioning members that have at least two different shapes, as recited in Claim 1.

Thus, the combination of the Ishikawa reference and the JP 05-275201 reference, and the combination of the Kanamori et al. reference and the JP 05-275201 reference both fail to establish a *prima facie* case of obviousness, since the cited references, either when taken singularly or in combination, fail to disclose all of the limitations recited in Claim 1. Accordingly, the Applicants respectfully request the withdrawal of the obviousness rejections of Claim 1.

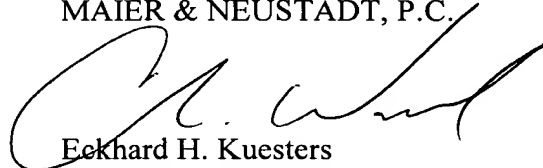
Claims 2, 4-7, and 9-11 are considered allowable for the reasons advanced for Claim 1 from which they depend. These claims are further considered allowable as they recite other features of the invention that are neither disclosed nor suggested by the applied references when those features are considered within the context of Claim 1.

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Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

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